REMARKS

In the Office Action dated April 6, 2005, claims 1-3, 9, 10 and 17 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 4,573,035 ("Dolazza"). Furthermore, claims 4-8, 11-16 and 18-21 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Dolazza, or over Dolazza in view of U.S. Patent No. 6,587,144 ("Kim") or U.S. Patent No. 6,654,054 ("Embler"). In response, Applicant respectfully asserts that the independent claims 1, 9 and 17 are not anticipated by Dolazza, as explained in detail below. Furthermore, dependent claims 4, 12, 13 and 19 are not obvious over Dolazza in view of Kim, as explained below. In view of the following remarks, Applicant respectfully requests the allowance of the pending claims 1-21.

A. Patentability of Independent Claims 1, 9 and 17

The Office Action has rejected the independent claims 1, 9 and 17 under 35 U.S.C. §102(b) as allegedly being anticipated by Dolazza. Applicant had previously asserted that Dolazza fails to disclose the element of *"providing a high signal and a low signal based on an image signal of a previously processed pixel"* (emphasis added), as recited in claim 1. In response, the Office Action alleges on page 2 that Dolazza discloses the +Ref and -Ref signals are generated using a first digitized word of a stabilized sample of the analog signal V and that "[t]he subsequent values of stabilized sample V (output of element 280) that is input to the A/DC 290 is digitized by the +Ref and -Ref already generated." Applicant respectfully disagrees with this analysis.

In support of the above analysis, the Office Action states that the "stabilized value V is input to A/DC converter 282 to generate a first digitalized word" and "[t]his is further input to a Programmable Read only memory (PROM) 284, which stores the first word and generates +Ref and -Ref analog signals after inputting through DACs 286 and 288." However, the PROM 284 is a **READ ONLY** memory, and thus, cannot be used to store "the first digitalized word" or anything else. Rather, the PROM 284 is pre-programmed to perform some sort of look-up function in response to the received first digitalized word, "producing an upper digital code and a

lower digital code, to be converted to an upper analog signal and a lower analog signal by digital-to-analog converter (DAC) 286 and 288," as described in column 10, lines 15-22. Consequently, new +Ref and –Ref analog signals are produced for each sample signal from the S/H element 280. Therefore, Dolazza does not disclose the element of *"providing a high signal and a low signal based on an image signal of a previously processed pixel"* (emphasis added), as recited in claim 1.

In an attempt to show that the +Ref and –Ref analog signals are only generated once, the Office Action has cited the following passage in column 10, lines 22-30, of Dolazza:

> "The upper analog signal and the lower analog signal is received by A/DC 290 as external upper and lower reference signals respectively, which permit the A/DC to convert the analog signal from S/H 280 to a digital output signal along a piece-wise linear transformation curve (approximately curve 268 of FIG. 6) having 64 linear segments corresponding to the 6 bit value of the first digital word (2^6=64)."

However, "the analog signal from S/H 280" is the same signal that was used to generate the +Ref and –Ref analog signals by the PROM 284 and DACs 286 and 288, not a subsequent analog signal. Thus, the above passage of Dolazza does not support the assertion of the Office Action.

The Office Action further attempts to show that the +Ref and –Ref analog signals are not generated for each pixel by stating on page 3 that "the time to digitize all pixels will be large" or that "the size of the circuit is large" if the +Ref and –Ref analog signals are generated for each pixel. In support of this conclusion, the Office Action has made some assumptions, i.e., 1 million pixels and 1 microsecond clock pulse. However, since this conclusion is dependent on the assumptions, an opposite conclusion can be made using different assumptions. The fact of the matter is that, as illustrated in Fig. 7 and described in column 10, lines 4-49, the +Ref and –Ref analog signals are generated for each analog signal V.

Since Dolazza does not disclose the element of *"providing a high signal and a low signal based on an image signal of a previously processed pixel,"* as recited in claim 1, Applicant respectfully asserts that the independent claim 1 is not anticipated by Dolazza. As such, the independent claim 1 should be allowed.

The above remarks are also applicable to the independent claims 9 and 17, which include similar limitations. As such, Applicant respectfully asserts that the independent claims 9 and 17 are also not anticipated by Dolazza, and thus, should be allowed.

B. Patentability of Dependent Claims 4, 13 and 19

The Office Action has rejected the dependent claims 4, 13 and 19 under 35 U.S.C. §103(a) as allegedly being unpatentable over Dolazza in view of Kim. In rejecting claim 4, the Office Action has equated "a preset black reference value" described in Kim as a "previously processed pixel value". In the cited reference of Kim, the "preset black reference value" is not described as being "*an analog signal of a previously processed pixel*," as recited in claim 4. As such, Applicant respectfully asserts that the dependent claim 4 is not obvious over Dolazza in view of Kim, and thus, should be allowed.

The above remarks are also applicable to the dependent claims 13 and 19, which include similar limitations. As such, Applicant respectfully asserts that the dependent claims 13 and 19 are also not obvious over Dolazza in view of Kim, and thus, should be allowed.

C. Patentability of Dependent Claim 12

The Office Action has also rejected the dependent claim 12 under 35 U.S.C. §103(a) as allegedly being unpatentable over Dolazza in view of Kim. In rejecting claim 4, the Office Action has taken Official notice "of the fact that a 10 bit D/A and 7 bit A/D converter is well known in the art."

Although it may be true that 10 bit D/A and 7 bit A/D converters are known in the art, the Office Action has failed to provide a clear line of reasoning as to why it is obvious to use a 10 bit D/A converter AND a 7 bit A/D converter, as recited in claim 12. As stated in MPEP §2142, "[t]he initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done." Further, as

stated in *Ex parte Clapp*, 227 USPQ 972, (Bd. Pat. App. & Inter. 1985) "[t]o support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or **the examiner must present a convincing line of reasoning** as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references" (emphasis added). Since no reasoning was presented as to why it is obvious to use a 10 bit D/A converter AND a 7 bit A/D converter, the Examiner has failed to establish a *prima facie* case of obviousness for claim 12. As such, Applicant respectfully asserts that the dependent claim 12 is not obvious over Dolazza in view of Kim, and thus, should be allowed.

D. Patentability of Dependent Claim 2, 3, 5-8, 10, 11, 14-16, 18, 20 and 21

Each of the dependent claims 2, 3, 5-8, 10, 11, 14-16, 18, 20 and 21 depends on one of the independent claims 1, 9 and 17. As such, these dependent claims include all the limitations of their respective base claims. Therefore, Applicant submits that these dependent claims are allowable for at least the same reasons as their respective base claims.

Applicant respectfully requests reconsideration of the claims in view of the claim amendments and the remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,

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